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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,807	06/15/2006	David Andrew Horsnell	16970US01	3988

23446 7590 08/05/2008
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EXAMINER

MARTIN, LAURA E

ART UNIT	PAPER NUMBER
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2853

MAIL DATE	DELIVERY MODE
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08/05/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/550,807	Applicant(s) HORSNELL ET AL.	
	Examiner LAURA E. MARTIN	Art Unit 2853	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 April 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6 and 7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6 and 7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

Claims 1-4, 6, and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-11 and 28-44 of copending Application No. 10/520912. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims hold the same structure as the claimed invention in different embodiments.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-4, 6, and 7 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 41-57 of copending Application No. 10/504474. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims hold the same structure as the claimed invention.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claims 1-4, 6, and 7 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 34-51 of U.S. Patent No. 7331654. Although the conflicting claims are not identical, they

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are not patentably distinct from each other because the claims hold the same structure as the claimed invention.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-4, 6, and 7 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The method claims focus on an apparatus (a drop on demand ink jet printer, as well as the components within and properties of it). The examiner holds weight only to the method steps.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by

Horsnell et al. (US 7331654 B2)

Horsnell et al. disclose the following claim limitations:

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As per claim 1: operating the drop on demand ink printer at a fluid pressure of between 1 and 3.5 bar, wherein the image forming composition has a viscosity of less than 100 cp, the drop on demand ink jet printer having an array of nozzles, each nozzle of the array of nozzles including an orifice; and controlling the flow of the image forming composition through the nozzle orifice by the use of at least one solenoid valve, the at least one solenoid valve having a plunger, the plunger of the at least one solenoid valve having a diameter of less than 2.5 mm, the plunger journaled for axial reciprocation between a rest and an operative position within an electric coil under the influence of a magnetic field generated by that coil when an electric current passes through the coil, the distal end of the plunger extending into a valve head chamber having an outlet nozzle bore, the reciprocation of the plunger being adapted to open or close a fluid flow path from the valve head chamber through that bore, characterized in that the plunger is of a unitary construction and is made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, preferably about 1.6 to 1.8 Tesla, a coercivity of less than 0.25 ampere per meter, and a relatively magnetic permeability in excess of 10000, and the nozzle bore leading from the valve head chamber to the nozzle orifice has a length to diameter ratio of less than 8:1, preferably from 1.5:1 to 5:1, notably from 2:1 to 4:1 (claims 34-51).

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Horsnell et al. (US 2006/0098060 A1)

Horsnell et al. disclose the following claim limitations:

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As per claim 1: operating the drop on demand ink printer at a fluid pressure of between 1 and 3.5 bar, wherein the image forming composition has a viscosity of less than 100 cp, the drop on demand ink jet printer having an array of nozzles, each nozzle of the array of nozzles including an orifice; and controlling the flow of the image forming composition through the nozzle orifice by the use of at least one solenoid valve, the at least one solenoid valve having a plunger, the plunger of the at least one solenoid valve having a diameter of less than 2.5 mm, the plunger journaled for axial reciprocation between a rest and an operative position within an electric coil under the influence of a magnetic field generated by that coil when an electric current passes through the coil, the distal end of the plunger extending into a valve head chamber having an outlet nozzle bore, the reciprocation of the plunger being adapted to open or close a fluid flow path from the valve head chamber through that bore, characterized in that the plunger is of a unitary construction and is made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, preferably about 1.6 to 1.8 Tesla, a coercivity of less than 0.25 ampere per meter, and a relatively magnetic permeability in excess of 10000, and the nozzle bore leading from the valve head chamber to the nozzle orifice has a length to diameter ratio of less than 8:1, preferably from 1.5:1 to 5:1, notably from 2:1 to 4:1 (claims 28-44 and 1-11).

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Horsnell et al. (US 2005/0231553 A1)

Horsnell et al. disclose the following claim limitations:

As per claim 1: operating the drop on demand ink printer at a fluid pressure of between 1 and 3.5 bar, wherein the image forming composition has a viscosity of less than 100 cp, the drop on demand ink jet printer having an array of nozzles, each nozzle of the array of nozzles including an orifice; and controlling the flow of the image forming composition through the nozzle orifice by the use of at least one solenoid valve, the at least one solenoid valve having a plunger, the plunger of the at least one solenoid valve having a diameter of less than 2.5 mm, the plunger journaled for axial reciprocation between a rest and an operative position within an electric coil under the influence of a magnetic field generated by that coil when an electric current passes through the coil, the distal end of the plunger extending into a valve head chamber having an outlet nozzle bore, the reciprocation of the plunger being adapted to open or close a fluid flow path from the valve head chamber through that bore, characterized in that the plunger is of a unitary construction and is made from an electromagnetically soft material having a saturation flux density greater than 1.4 Tesla, preferably about 1.6 to 1.8 Tesla, a coercivity of less than 0.25 ampere per meter, and a relatively magnetic permeability in excess of 10000, and the nozzle bore leading from the valve head chamber to the nozzle orifice has a length to diameter ratio of less than 8:1, preferably from 1.5:1 to 5:1, notably from 2:1 to 4:1 (claims 41-57).

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 102(a) as being anticipated by Taylor et al. (EP 0109242 A2).

Taylor et al. disclose the following claim limitations:

As per claim 1: operating a drop on demand printer (page 1, lines 5-10) at a fluid pressure of between 1 and 3.5 bar (page 17, line 21 - page 18, line 14); the drop on demand ink jet printer comprises an array of nozzles, controlling the flow of the image forming composition through the nozzle orifice by the use of at least one solenoid valve (page 14, lines 8-28 and page 17, lines 8-17). It is noted that the rest of the limitations are part of an apparatus, which is not given weight in a method claim.

Response to Arguments

Applicant's arguments with respect to claims 1-4, 6, and 7 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LAURA E. MARTIN whose telephone number

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is (571)272-2160. The examiner can normally be reached on Monday - Friday, 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen D. Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Laura E. Martin

/L. E. M./
Examiner, Art Unit 2853

/Manish S. Shah/
Primary Examiner, Art Unit 2853